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ABSTRACT

The intervention described in this paper used Brief Strategic/Structural Family Therapy (BSFT) to reduce the likelihood that African American and Hispanic youth would initiate drug use by decreasing existing behavior problems at the individual level and improving maladaptive family functioning at the family level. The program targeted African American and Hispanic families with children aged 12 to 14 who were showing conduct problems and antisocial behavior. BSFT is based on-the Structural Family Therapy work of S. Minuchin (1974) and H. Aponte and J. VanDeusen (1981). It is a flexible model with the length of the intervention tailored to the special needs of each family. The usual duration of the intervention is 12 to 16 weeks, and its core components are joining, family pattern diagnosis, and restructuring. The effectiveness of the approach was evaluated for 122 adolescents and their families. Results show that BSFT can have a powerful impact at individual and family levels. The program resulted in significant improvements on conduct disorder and socialized aggression for individuals and on an indicator of overall family functioning. BSFT appeared to have a treatment effect rather than a preventive effect. (Contains 4 figures and 32 references.) (SLD)

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BRIEF STRUCTURAL/STRATEGIC FAMILY THERAPY WITH AFRICAN AMERICAN AND HISPANIC HIGH RISK YOUTH

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BRIEF STRUCTURAL/STRATEGIC FAMILY THERAPY WITH AFRICAN AMERICAN AND HISPANIC HIGH-RISK YOUTH

The intervention described in this article used Brief [redacted] Strategic/Structural Family Therapy (BSFT) to reduce the likelihood that African American and Hispanic youth initiate drug use by: 1) decreasing existing behavior problems (conduct problems/antisocial behavior) at the individual level and 2) improving maladaptive family functioning at the family level. Decreasing behavior problems was a focus because children showing early antisocial behavior are particularly at risk for the initiation of substance abuse (Block, Block, & Keyes, 1988; Kellam, Brown, Rubin & Ensminger, 1983). Improving family functioning was a focus because there is evidence that good family functioning can insulate a child from environmental stressors (Santisteban, Szapocznik & Kurtines, 1993) while poor family functioning can serve as an added risk factor increasing the likelihood of substance abuse (Patterson, 1982).

We elected to work with "high risk" adolescents who already demonstrate the kinds of behavior problems that foreshadow substance abuse, placing this prevention program under the category of "Indicated Prevention Interventions" (Institute of Medicine, 1994). The selection of these high risk youth (most often those less likely to be helped by universal or selective prevention programs) require more intensive and specialized interventions to treat the existing problems that place them at high risk for substance abuse.

Relevant Literature Related to Risk Factors.

Problem Behavior theory (Jessor & Jessor, 1977) suggests that a

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variety of adolescent problem behaviors tend to co-occur and constitute a behavioral syndrome which may include such behaviors as delinquency, promiscuity, and drug use. Further, research evidence indicates that early antisocial behavior tends to precede adolescent substance use [redacted] Block, & Keyes, 1988; Kellam, Brown, Rubin & Ensminger, 1983; Newcombe & Bentler, 1988). From this perspective, therapeutic interventions that target early antisocial behavior may serve to prevent substance abuse by halting the further development of the problem behavior syndrome into substance abuse.

The prominent role that family interactions play in the emergence and maintenance of drug using and other antisocial/delinquent behavior has been well documented (Kumpfer, 1989;Patterson, 1986; Dishion & Andrews, 1995; Santisteban, Szapocznik & Kurtines, 1994). Studies have indicated that parents of behavior problem youths show less acceptance, less warmth, affection and emotional support, and attachment to their children (Loeber & Dishion, 1984) and are less supportive and more defensive (Alexander, 1973; Hanson, Henggeler, Haefele, et al., 1984). These parents also tend to be harsh in their attitudes and disciplinary practices with their children (Farrington, 1978), and use reinforcement inappropriately (Patterson, 1982). Hawkins, Catalano, & Miller (1992) point to such family factors as poor and inconsistent parenting practices, family conflict, and low bonding to family as placing youth at increased risk for problem behavior including substance use.

Clinical work at the Center for Family Studies (Santisteban, Szapocznik and Kurtines, 1993; Szapocznik & Kurtines, 1989) has shown that family factors can be either important risk or protective/resiliency

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factors, particularly in families facing powerful environmental stressors. When families function in an adaptive manner, the family can serve a protective role and facilitate the more adaptive handling of powerful environmental stressors. Conversely, families functioning in a [redacted]ptive manner cannot protect their youth from such environmental conditions as antisocial peers, drug availability and high neighborhood crime. Quite the contrary, poor family relationships may exacerbate the problem by expelling the youth from the family prematurely, and promoting the youth's over-reliance on the outside world.

Relevant Literature Related to Brief Strategic/Structural Family Therapy

The important role of family interaction patterns in the formation of adolescent problem behaviors and/or substance use has led to the development and implementation of a number of effective family intervention models (Alexander, Holtzworth-Munroe, & Jameson, 1994; Liddle, Dakof & Diamond, 1991; Henggeler, 1991; Patterson, 1982; Szapocznik & Kurtines, 1989; Szapocznik & Munoz, 1994). Further, there has been substantial empirical evidence for the effectiveness of family therapy as a therapeutic modality in general (Gurman, Kniskern & Pinsof, 1986; Liddle & Dakof, in press) and more specifically as a powerful intervention with drug abusing and/or behavior problem youth (Alexander & Parsons, 1982; Bry, 1986; Kazdin, 1987; Liddle & Diamond, 1991; Liddle, Dakof & Diamond, 1991). Our Brief Strategic Family Therapy model has demonstrated its effectiveness in decreasing adolescent behavior problems and in improving family functioning among youth identified as at risk for substance abuse (Santisteban, Szapocznik, Perez-Vidal, Kurtines, Coatsworth & LaPerriere, 1995; Szapocznik, Kurtines, Santisteban & Rio, 1990).

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Other types of interventions that have traditionally been used with problem behavior youth have proven to be much less effective. Group therapy interventions, for example, have been widely used but when rigorously tested, have been found to have potential detrimental effects on the youth (Liddle, Dakof & Sessa, 1994; Santisteban et al, 1995).

Chain of Assumptions behind BSFT.

The basic premise of the "BSFT with African American and Hispanic High Risk Youth Project" is that both behavior problems in youth and poor family functioning can lead to the initiation of adolescent substance use. The first core assumption of the project is that Brief Structural/Strategic Family Therapy can both: 1) reduce the level of behavior problems and 2) improve the level of family functioning. The second assumption is that changes in these important risk factors (the program's intermediate outcomes) reduces the likelihood that adolescents will initiate substance use (the program's ultimate outcome).

FIGURE 1 ABOUT HERE

B. DESCRIPTION OF THE INTERVENTION

Target Population.

The "BSFT with African American and Hispanic High Risk Youth Project" targets African American and Hispanic families with youngsters 12-14 years of age, who are showing indications of conduct problems at home and/or antisocial behavior with peers. All family members involved in the day to day raising of the youngster participate in the program. Youngsters are usually identified and referred by school counselors (see Study Subjects

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section for detailed inclusion/exclusion criteria).

Program Setting.

The Center for Family Studies in which our program is implemented, is a clinical research facility known in the community for its prevention and treatment interventions with minority adolescents and families. The Center for Family Studies has been part of the community for over twenty years and is part of the University of Miami Department of Psychiatry and Behavioral Sciences. The Center is located at the intersection of four minority inner-city communities; two largely African American (Liberty City, Overtown) and two largely Hispanic (Little Havana and Allapattah). The Center is also located adjacent to the University of Miami/Jackson Memorial Hospital Medical Center (UM/JMH) which is the indigent hospital for Dade County, serving indigent undocumented Hispanic and Haitian populations as well as the poor African American populations from our target areas.

Intervention Activities.

The BSFT intervention used in this project is rooted in the Structural Family Therapy work of Salvador Minuchin (1974) and Harry Aponte and VanDeusen (1981). The modality is especially suited to the needs of the targeted populations because it emerged out of expefience in working with urban minority group families (particularly Blacks and Puerto Rican families in the Philadelphia area) exposed to the effects of poverty-related stress and disadvantaged social, cultural, educational and political position in American society (Minuchin, 1967). An important assumption underlying BSFT and other family-oriented models is that the BSFT interventionist can spend only a limited number of hours with participants, but by changing the family system (parents, extended family,

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non-blood kin), the family context becomes a force that will positively influence the youth on an around-the-clock basis. BSFT is a refinement of Minuchin's Structural Family Therapy approach in that it: 1) made the intervention briefer; 2) targeted behavior problems and the prevention of substance abuse; and 3) targeted youth who were unwilling to seek treatment on their own.

In its implementation, BSFT is a very flexible model. The length of intervention is tailored to the special needs of each family and consequently, dosage varies from family to family. However, in nearly all cases the interventions consisted of 12-16 weekly family sessions that last 60-90 minutes and takes place within a 4-6 month time period. The specific techniques used and issues discussed can also vary from family to family depending on their specific concerns and circumstances. Some components of the model are used with all families and others are family specific and may be unique to certain culture groups (i.e., immigration issues, racial prejudice issues). Both core components and adaptations are presented below.

Core BSFT Components. The three core components of the BSFT model are: 1) Joining, 2) Family Pattern Diagnosis, and 3) Restructuring.

It is through **Joining** that the interventionist creates an effective collaboration with the family. Effective joining minimizes the chances of dropping-out or resisting change and the therapist establishes her/himself as leader of the family. The process of **Family Pattern Diagnosis** refers to the process of identifying the specific and unique repetitive maladaptive family interactions that are linked to the presenting problem. In this stage, the family is encouraged to interact and display their habitual

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patterns of interactions. Interaction patterns that are most central to the problem behaviors are identified in order to make the therapy efficient and powerful. The process of **Restructuring** involves the actual modification of family interactions by facilitating alternate [redacted] organizations and modifying the roles of different family members. Restructuring modifies the specific within family interactions that place the adolescent at risk for behavior problems and substance abuse and reinforces those that serve protective/resiliency roles.

There are many targets within the family for restructuring techniques. For example, parents who have lost their power to discipline and guide their children, are helped to regain their leadership in the family (restoring hierarchy) by re-involving them in critical parental duties and often by helping parents resolve conflicts that keep them divided and ineffective as a parental unit. Youth who feel isolated and detached from their families are helped to open communication and thereby create closer family relationships. This is often accomplished by having parents help their youth through painful growing experiences. Parents can also be helped to facilitate the youth's adequate separation and individuation by helping over-involved parents to disengage from the intensely conflictual parent-youth interaction, and promoting new more adult relationship between the youth and parent.

There are a number of other issues that tend to affect deeply high risk families. One such issue is that families are often severely disrupted and the challenge is in working with fragmented family components comprised of single parents, grandmothers, uncles and aunts, and other extended family and surrogate family members in efforts to construct or

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reconstruct family systems that support and nurture their youth. It has been our experience that it is not the precise makeup of the family (i.e., one parent, extended family) that may place a youth at risk, but rather the degree to which important family functions (i.e., providing leadership and support, consistent disciplining practices, monitoring youth, providing good conflict resolution strategies, etc.) are present. A second such issue is that parents are sometimes drug abusers themselves. In these cases extensive work is done with extended family members or kin, in an effort to define a nucleus of non-drug using family members within which the youth could be safely placed, and provided adequate guidance, discipline and control.

The Szapocznik and Kurtines (1989) description of the Brief Strategic/Structural Family Therapy approach serves as a manual for the implementation of our project's intervention and also greatly facilitates any future replication of this project.

Cultural Adaptations of the BSFT Model.

There are a number of characteristics of the BSFT model that make it particularly suited for our target populations (Rio, Santisteban & Szapocznik, 1990). First, our BSFT approach is present-focused and problem-oriented. These characteristics of BSFT meet the expectations of our multi-problem African American and Hispanic families that the therapy be relevant and that it lead to early and concrete improvements. Second, a structural family approach is congruent with Hispanics' preference for clearly delineated hierarchies within the family and it can effectively help family member realign themselves to promote a well functioning, hierarchical family structure. Third, BSFT can directly address one of the

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most common acculturation-related stressors, namely that youth acculturate faster than their parents and that the usual intergenerational differences/conflicts are exacerbated by intercultural differences. In these situations, youth differ from their parents not only along traditional generational lines, but also begin to espouse ideas that belong to a culture that is alien to their parents. These intercultural conflicts overlaid on intergenerational conflicts can cause severe breakdowns in family relationships. BSFT targets these issues directly by working at the content level to work through cultural issues while working at the process level to modify the manner in which family members relate to each other.

One of the core aims of this project was the further identification of family processes that might be particularly important to African American and Hispanic youth and families. Two findings are particularly noteworthy. In our work with African American families we have identified racial prejudice as an area in which parents/families can help insulate their young and make them more resilient. For example, BSFT can help parents to prepare their children to confront racial prejudice by teaching children successful coping strategies, advocating on the their behalf, allowing them to ventilate their frustrations and anger, and providing other familial supportive functions. Parents' ability to provide leadership in this very crucial area can have very powerful repercussions in terms of a youth's adjustment and behavior.

In our work with immigrant Hispanic families, we have found that a common immigration-related stressor occurs when youngsters must endure long separations from important family members. Many of our Hispanic parents have immigrated alone to establish a home in the host country, and have

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left their child behind. In these cases, the stress of the actual separation is often surpassed by the stress of reunification, when youth are expected to join parents, stepparents, an unfamiliar society, and are asked to leave the caretakers in the country of origin, to whom they have become attached. BSFT directly targets the negative impact of these separations on the family and help them establish new, adaptive relationships.

Providers of Program Services

The interventionists for the project were Ph.D. and Masters level family therapists. Each was well trained in the BSFT model. It should be noted that a large number of Ph.D. therapists were involved in this project because it was implemented in a university setting and not because that level of training is required. Masters level therapists and licensed family therapists with family training and knowledge of the cultural characteristics of the target population can successfully implement the BSFT interventions.

An important aspect of the staff of this project is the racial/ethnic/gender profile achieved. For example, over the life of the project there have been three African American therapists, three Hispanic therapists, one Haitian therapist and one White American therapist. Further, five of the therapists were women and three were men.

EVALUATION METHODS

Evaluation Hypotheses

Consistent with the theoretical risk reduction model presented above, the goals of the "BSFT with African American and Hispanic High Risk Youth Project" are to 1) reduce the risk factors for initiation of AOD use, 2)

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reduce the actual rates of initiation among non-users and, 3) reduce the level of use among youth who were using prior to the intervention.

Our hypothesis concerning the reduction of risk factors is that the intervention will effectively reduce risk for AOD use by: a) decreasing the levels of adolescent conduct problems, and/or b) improving the overall levels of global family functioning. As a corollary to this hypothesis, we propose to explore differential effectiveness of the program by ethnicity.

Our hypothesis regarding the rates of initiation of substance use is that levels of behavior problems and family functioning will significantly predict initiation versus non-initiation of use. The hypothesis regarding adolescents who had already initiated use prior to the intervention, is that BSFT interventions will significantly decrease their level of use.

Evaluation design

This study employed a basic one-group pretest-posttest-followup design. Using Cook and Campbell's nomenclature (1979), the design can be diagrammed as follows:

$O_1 \quad X \quad O_2 \quad O_3$

Assessment measures were administered once prior to intervention (pre-test: O_1), and twice following completion of the intervention (post-test: O_2 and 9-month follow up: O_3). Duration of the intervention varied by case, as required by the magnitude of the presenting problems (family functioning and/or adolescent behavior problems). Average intervention dosage was 13.3 hours (sd = 6.7), ranging from a low of 5 hours to a high of 38 hours. The pre-to-post assessment periods ranged from 1 to 15 months

with a mean of 4.7 months (sd = 2.8).

Instrumentation

The outcome variables of interest for this study were 1) Adolescent Behavior Problems, 2) Family Functioning, and 3) Adolescent Alcohol and Other Drug Use (AOD).

Behavior problems were measured using the Conduct Disorder and Socialized Aggression subscales from the Revised Behavior Problem Checklist (RBPC) (Quay & Peterson, 1987). The RBPC is an empirically derived measure consisting of 89 problem behaviors. For each adolescent, an informed observer (in this study, a parent or guardian, usually the mother) rates the severity of each behavior on a 3-point scale (0 = no problem, 1 = mild problem, 2 = severe problem). Both the Conduct Disorder scale (22 items) and the Socialized Aggression scales (17 items) demonstrated excellent reliability, with internal consistency reliabilities across six studies ranging from .92 to .95 for Conduct Disorder and from .85 to .93 for Socialized Aggression (Quay & Peterson, 1987). These scales have also demonstrated good interrater reliabilities, and test-retest reliability (Quay & Peterson, 1987). Construct validity of the measure is supported through differentiation of normal versus deviant children, through correlations of these scales with behavioral observations and peer nominations, and through correlations with other measures such as the internalizing and externalizing scores on the Child Behavior Profile (Achenbach & Edelbrock, 1983). For those parents who only spoke Spanish, a Spanish language version was available. The Spanish and English versions have been shown to have very comparable factor structures (Rio, Quay, Santisteban & Szapocznik, 1989).

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The Conduct Disorder subscale is a 22 item scale that measures the adolescent's disruptive disobedient and impertinent behavior at home (example, "Disobedient; difficult to control"). Internal consistency reliability for this scale with this sample was .93. Socialized Aggression is a 17 item subscale which measures peer based deviant behavior (example, "Steals in company with others"). For this sample the reliability of this scale was .86.

Because our sample also included referrals for internalizing problems, and a substantial number of adolescents were reported to have comorbid internalizing and externalizing problems, we also examined program effects on parents's report of problems on the Anxiety Withdrawal subscale. The Anxiety-Withdrawal scale taps the degree to which the child exhibits behaviors such as being depressed or fearful. This subscale also demonstrated strong reliability within our sample (alpha = .83)

Family Functioning was assessed by the General Scale of the Family Assessment Measure (Skinner, Steinhauer, & Santa-Barbara, 1984). The General scale is a 50 item scale that focuses on the family as a system and provides an overall score of family functioning, rated by any member of the family. In prior work, the global scale (35 items measuring factors such as communication, and parental involvement) has demonstrated good internal consistency reliability (alpha = .93 for adults and .94 for children) (Skinner, Steinhauer, & Santa-Barbara, 1983). In this study both parents and adolescents reported on their family's functioning. Reliability (alpha) for this scale was .86 for parents' report and .90 for adolescents' report.

Adolescent Alcohol and Other Drug Use was assessed using the alcohol

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and drug use scale of the Adolescent Drug Abuse Diagnosis (Philadelphia Psychiatric Center, 1988), a structured interview for diagnosis, treatment planning and research. The ADAD is comprised of 150 items covering nine problem areas: medical, school, employment, social, family, psychological, legal, alcohol and drug. The instrument has demonstrated adequate inter-rater and test-retest reliability as well as evidence for convergent and discriminant validity with eight independent paper and pencil measures each of which corresponded to a different problem area measured by the ADAD (Friedman & Utada, 1983).

Two indices of adolescent substance use were computed for this study. Adolescents were categorized into either a *user* group or a *non-user* group depending on whether they reported <u>any</u> lifetime use of alcohol or 12 other drugs (e.g. marijuana, cocaine, opiates, etc.). A second index of frequency of use over the past 30 days across all substances was computed for all users.

<u>Study Subjects</u>

Included in the project were families of African American or Hispanic descent with an adolescent between the ages of 12-14 years who met one or more of the following criteria:

i. Externalizing Behavior Problems
   * conduct problems at home/school
   * peer-based behavior problems
   * violent behavior

ii. Internalizing Behavior Problems
   * anxiety and/or depression
   * suicidal ideation, but not attempts

iii. Significant Academic problems, except organic learning disabilities

iv. Initiation of alcohol or drug use

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The participants presented in this article are 122 adolescents (103 Hispanic and 19 African American) who completed the project and for whom all outcome data were available[1]. The sample was comprised of 81 males and 41 females with a mean age of 13.1 years (sd = 1.2). The majority of families were composed of the adolescent, two parental figures (parent, step-parent, guardian), and at least one sibling. The median education level of the head of household was some college with the median occupation level corresponding to skilled laborer. Within the Hispanic sub-sample, 47% were Cuban with most of the remaining families originating from Central or South America. The median number of years the families had been in the U.S. was 14 years with a range of 1 to 40 years.

Subjects' Clinical Profiles. Consistent with our basic assumptions, this sample had elevated intake scores on all behavior problem and family functioning scales, suggesting high risk for substance use. The mean scores on all three RBPC scales; Conduct Problem ($x = 20.05$, $sd = 10.5$); Socialized Aggression ($x = 6.8$, $sd = 6.5$), and Anxiety-Withdrawal ($x = 8.4$, $sd = 4.7$) were above "clinical levels".[2] Co-morbidity of behavior problems was prevalent, with 46% of the sample exhibiting elevated scores on the Anxiety-Withdrawal scale and at least one of the other two "externalizing" scales. With regard to family problems, 43% of the adolescents reported that their family's overall functioning was in the problem range, while 34% of the parents reported problems in family functioning. Sixty-five percent of the sample showed both problems in family functioning and elevated behavior problem scores.

Data Collection

Data were collected in a standardized manner by trained Master's level

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Research Associates of the Center for Family Studies. The assessment batteries were administered at the Center for Family Studies and consisted of questionnaires completed by adolescent, parents, and siblings, interviews of the adolescent (ADAD and DISC), and a standardized videotaped, interactional "family task". Research Associates were trained in the administration of clinical interviews (ADAD and DISC) and were supervised directly by the Evaluator. Research Associates were of the same ethnicity as the family, and those working with Hispanic families were bi-lingual. Prior to assessment, all families were informed of the limits of confidentiality and were asked to sign a form indicating that they understood these limits. Both youth assent and parent consent were obtained.

Data were entered and stored on a personal computer using SPSS/PC. Data from most cases were entered once, with double entry on a random sample of cases to ensure accuracy of data entry.

Data Analyses

The primary analyses were organized to address the study's main hypotheses. Secondary analyses were conducted to explore differential effectiveness across ethnic groups, and to investigate possible correlates of effectiveness. Repeated Measures Multivariate Analysis of Variance (RMANOVA) was used to test whether the intervention had reduced behavior problems and improved family functioning. Followup analyses (ANOVA, paired t-tests) were conducted where appropriate. Because significant pre-to-post change in mean level of behavior problems may not accurately represent significant clinical change at an individual level, a second and complementary approach to program effectiveness was provided by an analysis

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of individual clinical change(Jacobson & Truax, 1991). This approach assesses whether improvement in behavior problems was greater than would be expected due to chance fluctuations and measurement error. Because the duration of intervention (dosage) and the time between assessments were critical variables that were not controlled in the design, but could potentially influence the results of the study, they were included in the analyses as covariates.

Standard within group (pre to post) effect sizes[3] were calculated for the entire sample, and by ethnicity for pre-to-post scores on behavior problems (Conduct Disorder and Socialized Aggression), Anxiety- Withdrawal, and family functioning.

Logistic Regression was used to examine changes on the risk factors as predictors of initiation of substance use. Only those adolescents who had not used substances at the time of entry to the intervention were used for these analyses. Because of this limited sample size, each predictor was examined independently. Multivariate analyses await an increase in sample size. Additional analyses were conducted using RANOVA to examine whether the intervention was effective in reducing the level of use for those adolescents who were already using at the time of intake.

Evaluation Results

Program Effects on Intermediate Outcomes

Behavior Problems. A one way (pooled Hispanic and African American) Repeated Measures Multivariate Analysis of Variance (RMANOVA) was conducted to assess the intervention's effect on Conduct Problems and Socialized Aggression. Pre-test and Post-test Means, standard deviations,

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multivariate and univariate F-values, and effect sizes for the entire sample on these two indicators are presented in Table 1. Results of the multivariate test ($F(2, 120) = 32.92$; $p<.000$) indicate the intervention was effective in significantly reducing behavior problems. Univariate results also indicate success in reducing both Conduct Problems ($F(1,121) = 65.81$; $p<.000$) and Socialized Aggression ($F(1,121) = 11.99$; $p< .001$). A moderate to high effect size (d) was evident for Conduct Disorder (.73), while a small to moderate effect (.31) was found for Socialized Aggression.

Table 1 about here

An independent Repeated Measures ANOVA was conducted to examine the interventions effects on Anxiety-Withdrawal symptoms across the entire sample. Results indicated that the program effectively reduced these problems ($F(1,121) = 45.56$, $p<.000$: $d = .62$).

A second method of testing program efficacy, examining reliable clinical change scores (see Jacobson & Truax, 1991) was used for all three of these RBPC scales. Figures 2-4 plot the intake by termination scores and the reliable change band. Points falling below the band showed reliable improvement, while points above showed reliable decline. In addition, another index was computed to indicate whether cases who started the intervention above clinical levels had "recovered" to a non-clinical levels at termination. Effects were strongest for the Conduct Disorder scale, where of the 81 cases who were above clinical levels at intake 47% made reliable improvement, and 36% terminated the intervention at non-clinical levels. Effects were somewhat weaker for Socialized Aggression.

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Of the 37 cases that started the intervention at clinical levels, 24% showed reliable improvement, and 12% terminated at non-clinical levels. Twenty-nine percent (n= 19) of the 65 cases with clinical levels of Anxiety Withdrawal symptoms at intake made reliable change with sixteen of the cases returning to non-clinical levels.

Figures 2-4 about here

Family Functioning. Because the parent and adolescent report of family functioning showed only modest correlation (r= .22), separate analyses were conducted by parent and by adolescent. Table 1 shows the Pre-test and Post-test Means, standard deviations, F-values, and effect sizes for the entire sample for both reports. As indicated, both parents ($F(1,121) = 41.8$; $p<.000$) and adolescents ($F(1,116) = 21.27$; $p<.000$) report significant change in family functioning over the course of the intervention. Effects for the parent report ($d = .58$) were somewhat stronger than effects for the adolescent report ($d = .42$).

Program Effects on Intermediate Outcomes by Ethnicity. Additional analyses investigating the programs effects by ethnicity indicated that within the Hispanic group, relatively stronger effects wee found for Conduct Disorder (d = .74), Anxiety-Withdrawal (d = .60), and Family Functioning (d = .62), but a weaker effect for Socialized Aggression (d = .24). In contrast, the African American group showed comparable program effects across the problem behavior dimensions; Conduct Disorder (d = .66), Socialized Aggression (d = .68), and Anxiety Withdrawal (d = .68), but a modest effect for Family Functioning (d = .34).

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These repeated measures analyses were also conducted with hours of therapy entered as a covariate in order to examine whether dosage of intervention contributed significantly to these results. In all analyses, hours of treatment was not a significant covariate. Additionally, neither the correlation between changes in behavior problems and duration of treatment, nor between family functioning and duration of treatment was significant.

Program Effects on Ultimate Outcome

Preventing Initiation of Substance Use. The analyses presented in this section use Logistic Regression to explore the second assumption of our theoretical model, that the initiation of substances is a function of both intake and termination levels of behavior problems and family functioning. These analyses included only subjects who had not initiated at the time of intake and for whom all data were available at all three assessment points (n=33). Because of the limited sample size, any single analysis included a maximum of two predictors, intake and terminations scores on the relevant dimension.

Results indicated that variables from all three predictor domains; conduct disorder, socialized aggression and family functioning, were statistically significant predictors of initiation. Both Intake Conduct Disorder (b = .08; p=.02) and Termination Conduct Disorder (b = .08; p=.03) scores were significant independent predictors of initiation. A similar pattern was found for Socialized Aggression scores with both intake (b = .27; p=.03) and termination scores (b = .59; p=.01) significantly predicting onset of substance use. In addition, termination scores on Socialized Aggression significantly predicted onset, even after accounting

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for intake scores (b= .56; p=.02). Initiation of substance use by followup was also predicted by parental report of intake levels of family functioning (b =.15; p=.05) but not by parental report of family functioning at termination (b=.07). In contrast, it was adolescent report of termination levels of family functioning (b = .11;p=.04) and not intake levels (b=.08;ns) that predicted initiation at followup.

Translating these logistic regression coefficients to probabilities assists in interpretation. For example, the probability that an adolescent would initiate use by followup was .98 if his termination Socialized Aggression score was 11.3 (one standard deviation above our sample mean). Conversely, if the termination Socialized Aggression scores was 5.2 (at the sample mean), the probability of initiating use was only .58. Similarly, the probability of initiation at followup was .55 if his termination Conduct Disorder score was 23.9 (1 standard deviation above our sample mean) while a score of 14.3 (sample mean) yielded a probability of only .35.

Treatment Effects on Substance Use. Analyses were also conducted to investigate changes in the level of use for that smaller subset of adolescents who entered the program having already initiated use. The results indicated that overall substance use was significantly decreased between intake and termination ($t(22) = 2.11$, $p<.05$).

Discussions and Conclusions

Conclusions

The BSFT with African American and Hispanic High Risk Youth project, which has as its core Brief Strategic/Structural Family Therapy, has

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yielded a number of very important findings. First, with regard to the hypothesized intermediate outcomes, results show that BSFT can have a powerful impact at both individual level and family level high risk factors. BSFT resulted in significant improvements on two of the most recalcitrant individual level problems in adolescents, namely conduct disorder and socialized aggression, as well as on an indicator of overall family functioning.

Although reducing behavior problems and improving family functioning are impressive outcomes in themselves, their relevance to preventing adolescent substance use would be attenuated if the hypothesized risk factors were not predictive of later initiation. Consequently, we tested the extent to which the hypothesized high risk factors were predictive of initiation of substance abuse at followup. These analyses resulted in the second important finding of this study, namely that, when looked at independently, all three high risk factors reduced by BSFT were predictive of the likelihood of initiation at followup. More specifically, lower levels of conduct disorder, less socialized aggression and better family functioning each predicted lower rates of future initiation of substance use.

The third important finding of this study is indicative of a treatment effect rather than a preventive effect. For the small subgroup of youth who entered the project having already initiated substance abuse, the BSFT intervention produced a significant decrease in the amount of use.

Fourth, BSFT was effective with both African American and Hispanic youth/families. Families and youths from both ethnic/racial groups showed significant improvements on levels of conduct disorder, socialized

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aggression and family functioning. Interestingly, however, the data suggest that the intervention was more powerful in reducing socialized aggression among our African American participants than among our Hispanic participants. Conversely, the intervention was more powerful in improving family functioning among our Hispanic participants than among our African American participants. Further study will be needed to investigate whether these differences could have resulted from characteristics of the population or from difference in treatment implementation.

Fifth, from a process evaluation perspective, results suggest that it is possible to identify unique stressors confronted by African American and Hispanics and to weave them seamlessly into the intervention such that prevention interventions appear more meaningful and relevant to the lives of our minority families.

Limitations

One limitation of the study is the lack of a comparison group during the first four years of the project. The absence of a comparison group limits the extent to which alternative hypotheses can be ruled out. For example, it is difficult to interpret a rate of initiation of substance abuse following an intervention, without knowing what the rate of initiation would be without intervention. If 5% of high risk youth initiate substance use at followup, it is difficult to judge whether this is better, worse or not significantly different from that which would occur if these youth/families had not received the intervention. It is also difficult to rule out general threats to internal validity such as history, maturation, statistical regression, and instrumentation/testing (Cook and Campbell, 1979).

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A second limitation of the study is the relatively small sample on which our analyses regarding initiation of substance use are based. An increase in sample size would allow us to employ more sophisticated analytic tools to test the hypothesized effects of the interventions.

Recommendations for Future Research

As indicated above, the design and implementation of a comparison group is critical to the full testing of hypotheses and models. We are currently implementing a randomized study in which clients are randomly assigned to either BSFT project interventions or to treatment as usual in the community. A randomized study with a comparison group will provide a much stronger test of the model's hypotheses.

Program evaluations can also benefit from more frequent assessment points, including assessments during the course of the program, rather than solely before and after the intervention. This design change can lead to a clearer understanding of the different trajectories that youths/families may take toward dropping-out, improving or failing to improve.

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1. Attrition analyses comparing intervention completers versus intervention drop-outs on levels of pretest levels of behavior problems, family functioning and high risk factors indicated no differences between these groups.

2. Clinical levels were based on published norms (Quay & Peterson, 1987), and created using the following formula: (clinical group mean - non clinical group mean)/2 (see Jacobson & Truax, 1989).

3. In studies without a control group effect sizes are computed using pre and post-test scores. However, these effects are generally somewhat larger than those attained from studies with control groups (Durlak, 1995).

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Figure Captions

Figure 1. Theoretical Model of the BSFT Intervention

Figure 2. RBPC Conduct Disorder Scale

Figure 3. RBPC Socialized Aggression Scale

Figure 4. RBPC Anxiety Withdrawal Scale

Table 1. Pre-test and Post-test Means, Standard Deviations, F-values and Effect Sizes (d) for intermediate outcome variables

VARIABLES	Pre-Test Mean (SD)	Post-Test Mean (SD)	F-Value	Effect Size (d)
BEHAVIOR PROBLEMS				
Multivariate Test			32.92***	
Univariate Tests				
Conduct Disorder	20.1 (10.5)	14.3 (9.6)	65.81***	.73
Socialized Aggression	6.8 (6.6)	5.2 (6.1)	11.99***	.31
Anxiety-Withdrawal	8.4 (4.8)	5.6 (4.3)	45.56***	.62
GLOBAL FAMILY FUNCTIONING				
Parent Report	56.1 (8.1)	51.8 (8.5)	41.80***	.58
Adolescent Report	58.5 (9.5)	55.4 (8.4)	21.27***	.42

*** $p < .000$

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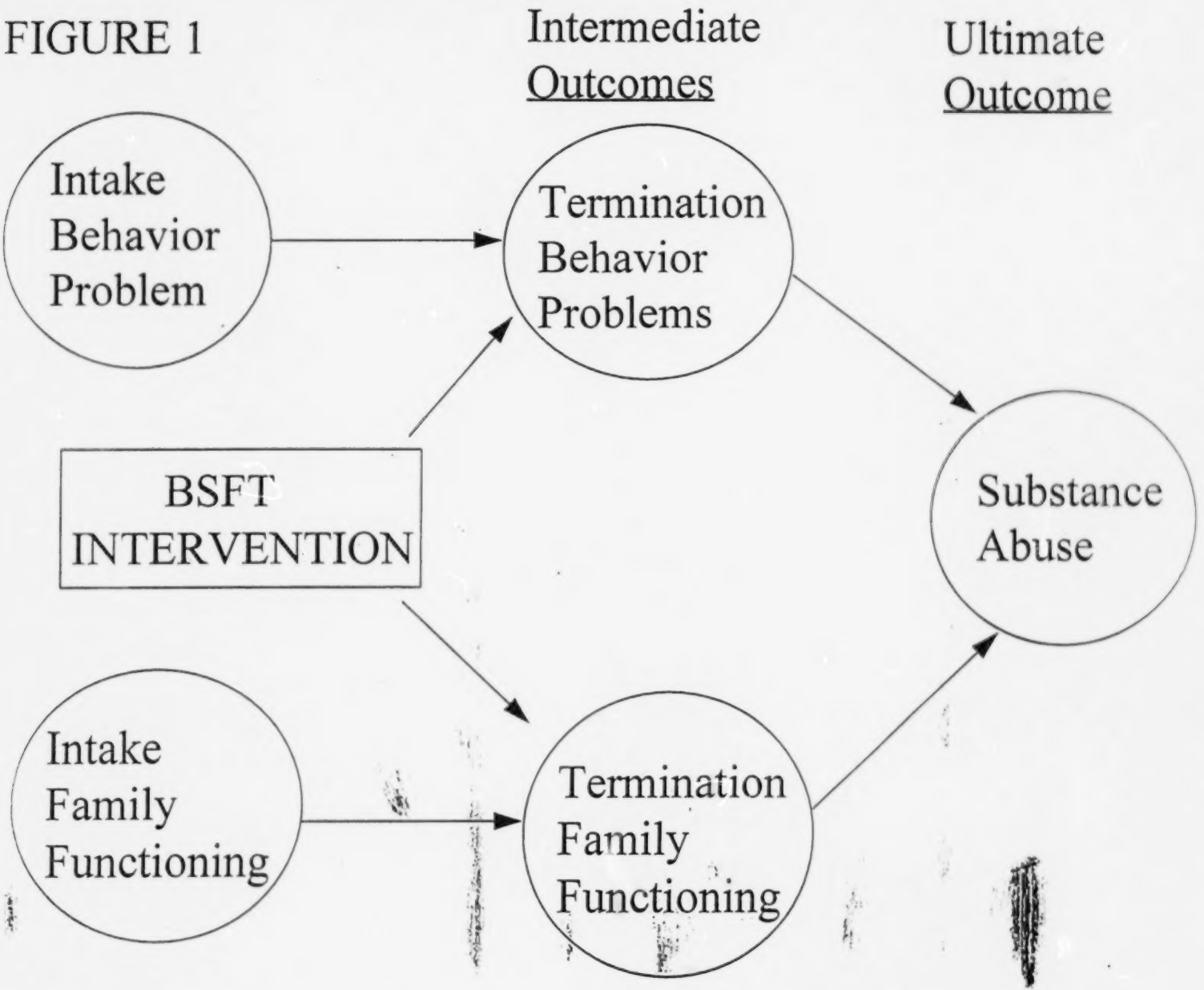
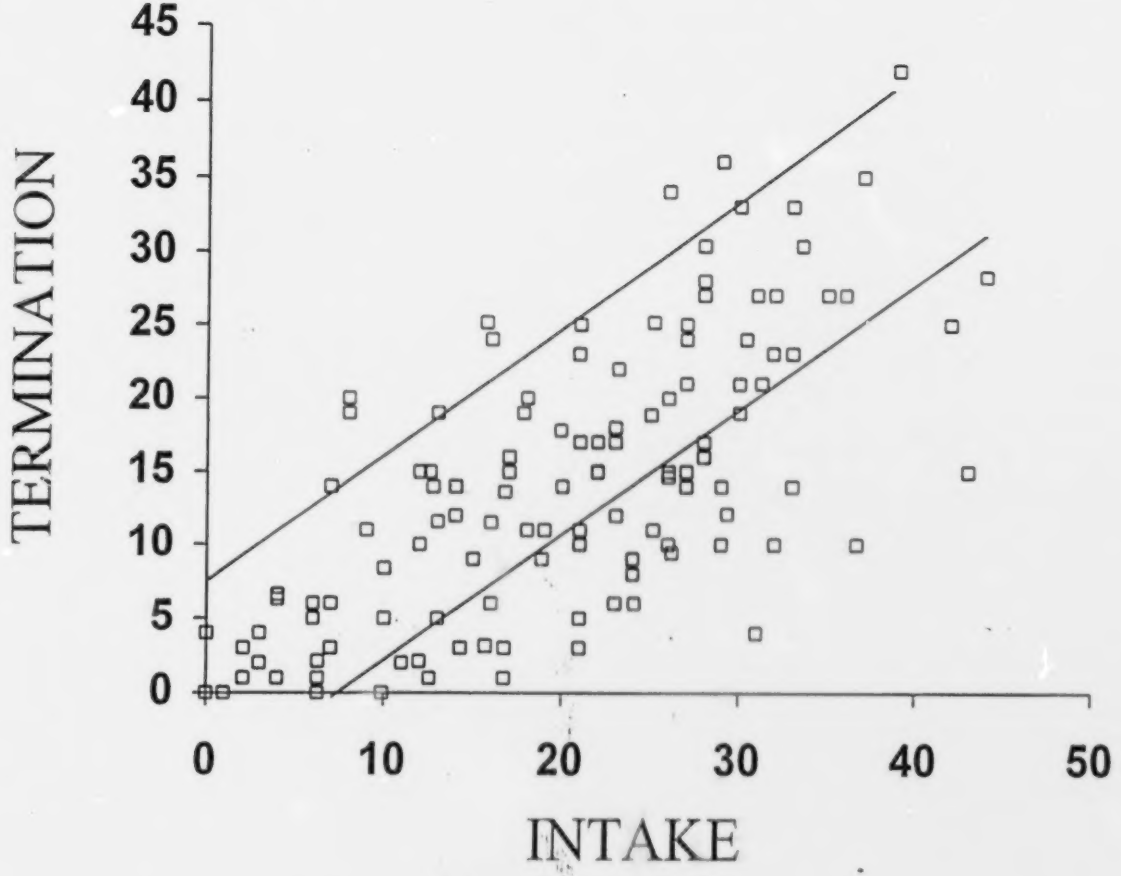
FIGURE 1


Intermediate Outcomes
Ultimate Outcome
Intake Behavior Problem
Termination Behavior Problems
BSFT INTERVENTION
Substance Abuse
Intake Family Functioning
Termination Family Functioning



RBPC CONDUCT DISORDER

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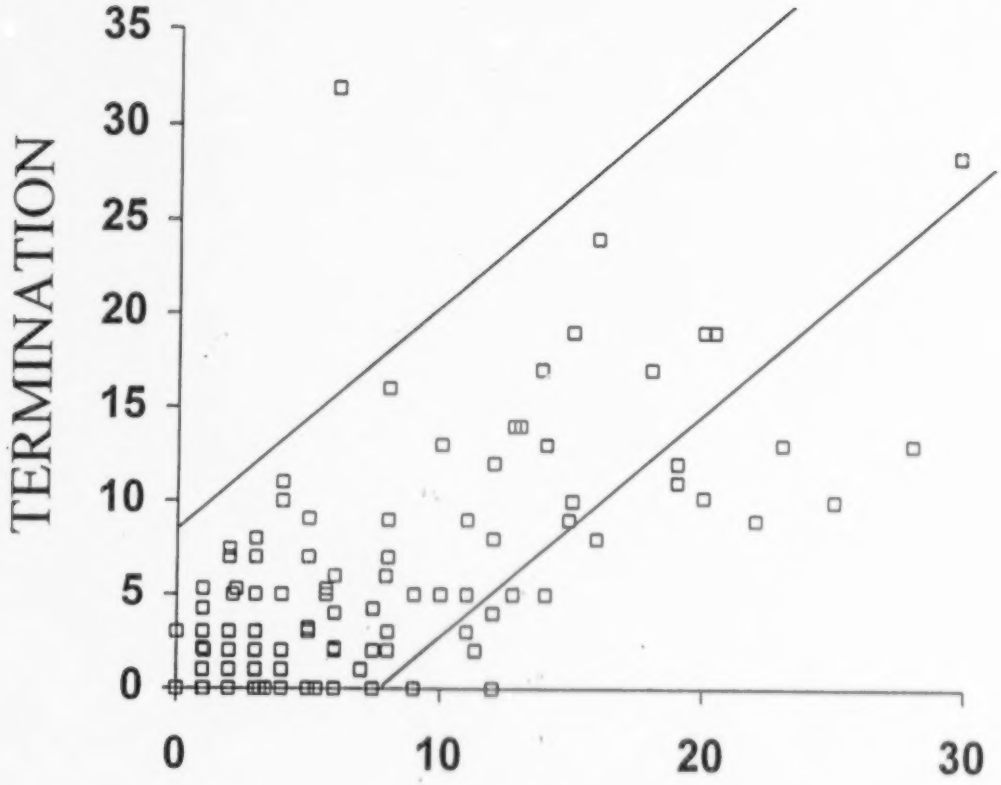

RBPC SOCIALIZED AGGRESSION

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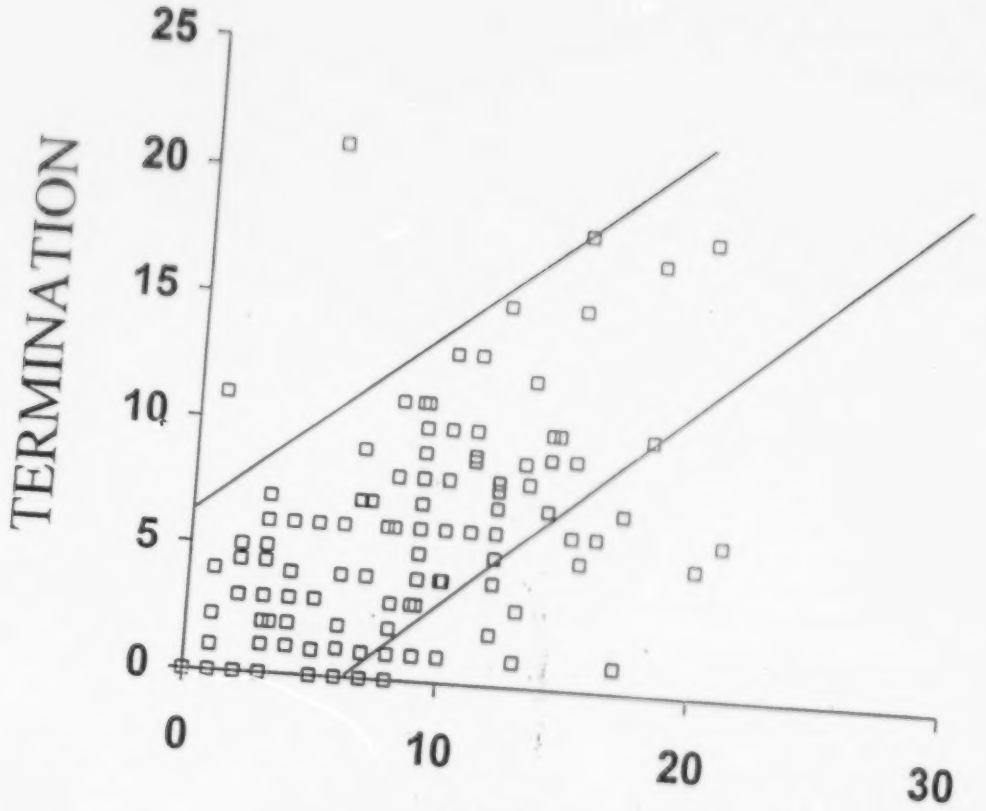

RBPC ANXIETY WITHDRAWAL

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